



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,505	10/26/2001	Michael S. Foster	030048025US	8936
25096	7590	09/06/2005	EXAMINER	
PERKINS COIE LLP			HAN, CLEMENCE S	
PATENT-SEA				
P.O. BOX 1247			ART UNIT	
SEATTLE, WA 98111-1247			PAPER NUMBER	
			2665	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/039,505

Applicant(s)

FOSTER ET AL.

Examiner

Clemence Han

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-37 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 26 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: All 20 figures are objected. The “interconnect fabric module 100” (6<sup>th</sup> line from the bottom of the page 15) is shown as “00” in Figure 1. Such discrepancies have occurred in each subsequent figures including the “decision block 2005” (page 34 line 7) which is shown as “05” in Figure 20. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The disclosure is objected to because of the following informalities: The applicant is advised to update the correct status of the related applications mentioned in page 1-3. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1, 12 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims 1, 12 and 25 recite the limitation of selecting the frame based on the priority score and the length of time that the frame has been stored. The examiner could not find the support for this limitation. The paragraph [0055] in page 24 describes a buffer arbitrator using the priority to select a frame to be transmitted. It also describes a buffer arbitrator using the latency to select a frame to be transmitted. However, it

does not describe using both criteria in one embodiment to select a frame to be transmitted.

***Claim Rejections - 35 USC § 102***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 1-8, 10-20, 22-33 and 35-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Mitchem et al. (US 6,608,819).

Regarding to claim 1, Mitchem teaches a method in a switch for buffering data received through a source port before transmitting the data through a destination port, the method comprising: receiving a first frame of data through the source port 16 (Column 6 Line 49); storing the received first frame of data; receiving a second frame of data through the source port (Column 6 Line 49); storing the received second frame of data; selecting either the first frame or the second frame for transmitting through the destination port based on a priority score of the first frame and the second frame (Column 6 Line 55-58) and the length of time that the first frame and the second frame have been stored (Column 9 Line 13-21).

Regarding to claim 2, Mitchem teaches the first and second frames are stored in a buffer that is used to store frames received only through the source port (Column 7 Line 66).

Regarding to claim 3, Mitchem teaches the priority score of a frame based on a priority associated with the frame (Column 6 Line 59-61).

Regarding to claim 4, Mitchem teaches the priority score of a frame based on a class of service of the frame (Column 7 Line 41-44).

Regarding to claim 5, Mitchem teaches the priority score of a frame based on latency of the frame (Column 9 Line 13-17).

Regarding to claim 6, Mitchem teaches the first frame is stored in a first buffer and the second frame is stored in a second buffer and all frames of a connection are stored in the same buffer (Figure 4A).

Regarding to claim 7, Mitchem teaches the switch is an interconnect fabric Module 12.

Regarding to claim 8, Mitchem teaches the switch is Fibre Channel compatible (Column 6 Line 39).

Regarding to claim 10, Mitchem teaches the second frame is received after the first frame and wherein the second frame is selected (in Figure 4B, frame C was received later than frame B but selected to be transmitted before frame B).

Regarding to claim 11, Mitchem teaches a later received frame is selected before an earlier received frame (in Figure 4B, frame C was received later than frame B but selected to be transmitted before frame B).

Regarding to claim 12 and 25, Mitchem teaches a routing device comprising: a first buffer for storing a first frame received through a source port 16 (Column 6 Line 49); a second buffer for storing a second frame received through the source port 16 (Column 6 Line 49); and a component that selects either the first frame or the second frame for transmitting through a destination port based on a priority score of the first frame and the second frame (Column 6 Line 55-58) and the length of time that the first frame and the second frame have been stored (Column 9 Line 13-21).

Regarding to claim 13 and 26, Mitchem teaches each source port of the routing device has a first and second buffer and a component that selects (Figure 4A and Column 7 Line 65 – Column 8 Line 1).

Regarding to claim 14 and 27, Mitchem teaches the first and second buffer are used to store frames received only through the source port (Column 7 Line 66).

Regarding to claim 15 and 28, Mitchem teaches the priority score of a frame is based on a priority associated with the frame (Column 6 Line 59-61).

Regarding to claim 16 and 29, Mitchem teaches the priority score of a frame

is based on a class of service of the frame (Column 7 Line 41-44).

Regarding to claim 17 and 30, Mitchem teaches the priority score of a frame is based on latency of the frame (Column 9 Line 13-17).

Regarding to claim 18 and 31, Mitchem teaches all frames of a connection are stored in the same buffer (Figure 4A).

Regarding to claim 19 and 32, Mitchem teaches the routing device is an interconnect fabric module 12.

Regarding to claim 20 and 33, Mitchem teaches the routing device is Fibre channel compatible (Column 6 Line 39).

Regarding to claim 22 and 35, Mitchem teaches the second frame is received after the first frame and the second frame is selected (in Figure 4B, frame C was received later than frame B but selected to be transmitted before frame B).

Regarding to claim 23 and 36, Mitchem teaches a later received frame is selected before an earlier received frame (in Figure 4B, frame C was received later than frame B but selected to be transmitted before frame B).

Regarding to claim 24 and 37, Mitchem teaches the routing device is a switch 12.



***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claim 9, 21 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchem et al. in view of Hu et al. (US 6,535,518).

Regarding to claim 9, Mitchem teaches a method in a switch for buffering data received through a source port before transmitting the data through a destination port, the method comprising: receiving a first frame of data through the source port 16 (Column 6 Line 49); storing the received first frame of data; receiving a second frame of data through the source port (Column 6 Line 49); storing the received second frame of data; selecting either the first frame or the second frame for transmitting through the destination port based on a priority score of the first frame and the second frame (Column 6 Line 55-58). Mitchem, however, does not teach InfiniBand compatible switch. Hu teaches InfiniBand compatible switch (Column 7 Line 45-55 and Column 8 Line 16). It would have been obvious to one skilled in the art to modify Mitchem to be InfiniBand compatible as taught by Hu in order to be implemented in various possible network (Column 8 Line 10-13).

Regarding to claim 21 and 34, Mitchem teaches a routing device comprising: a first buffer for storing a first frame received through a source port 16 (Column 6 Line 49); a second buffer for storing a second frame received through the source port 16 (Column 6 Line 49); and a component that selects either the first frame or the second frame for transmitting through a destination port based on a priority score of the first frame and the second frame (Column 6 Line 55-58). Mitchem, however, does not teach InfiniBand compatible routing device. Hu teaches InfiniBand compatible routing device (Column 7 Line 45-55 and Column 8 Line 16). It would have been obvious to one skilled in the art to modify Mitchem to be InfiniBand compatible as taught by Hu in order to be implemented in various possible network (Column 8 Line 10-13).

### ***Response to Arguments***

9. Applicant's arguments filed on June 16, 2005 have been fully considered but they are not persuasive.

In response to page 8, the applicant argues that Mitchem does not disclose selecting the frame based on the length of time that the first frame and the second frame have been stored. Mitchem teaches selecting the frame based on the length of time that the first frame and the second frame have been stored (Column 9 Line 13-21). The applicant, further, argues that Mitchem discloses only receiving data

but not storing a frame of data. Mitchem teaches storing received data until it is transmitted (Column 5 Line 11-13).

Therefore, the examiner contends that Mitchem teaches all limitations of the independent claims.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is


(571) 272-3158. The examiner can normally be reached on Monday-Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. H.

Clemence Han  
Examiner  
Art Unit 2665



STEVEN NGUYEN  
PRIMARY EXAMINER